Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

Caribou (*Rangifer Caribou* Aud. and Bach.). Caribou are quite plenty a little north of here, about Ragged Lake, Black Brook, etc. Caribou live principally on moss, but eat some twigs. It is faster, I think, than either deer or moose; of these two, the deer is the faster. The meat of a caribou when dressed weighs, I judge, from two hundred and fifty to three hundred pounds.

Deer (*Cervus Virginianus* Boddaert.) Deer are not very plenty about here. They browse "moose-bush," fir, cedar (Arbor vitæ), willow, swamp maple, and lynois bush; in summer they like lily-pads, leaves of trees, and grass. I think that, like the moose, the deer generally bears two young.

[We have introduced the scientific names of the animals mentioned by Mr. Clapp, and would refer those of our readers who wish for information regarding their classification and distribution to the comprehensive and invaluable work of Professor Baird, on the "Mammals of North America," forming the *eighth volume* of the Pacific Railroad Reports, published by order of Congress in 1857. —Editors.]

THE LAND SNAILS OF NEW ENGLAND.

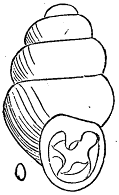
BY EDWARD S. MORSE.

(Concluded from page 609.)

The following species, though minute, are very characteristic, and with the aid of the engravings, but little trouble will be encountered in identifying them. Formerly included under the old genus Pupa, they are now separated under a distinct genus called Leucochila. But slight differences are noticed between the soft parts of the species to be described, and those given previously.

Leucochila contracta *Say* (Fig. 54) is an oval, conical, whitish shell, having five convex whorls; the spire tapering to a somewhat pointed apex. The aperture is quite large, and is bordered by a widely reflected lip. The aperture is nearly closed with four tooth-like folds, and one is inclined to wonder how it is possible for the animal to protrude and withdraw his body within the shell. The shell has a distinct umbilicus. Length one-tenth of an inch. Animal blackish above; disk light gray. Almost universally distributed throughout the United States east of the Rocky Mountains. It is not a common species in New England. Found in beech groves under bits of rotten bark.

Fig. 54.



Leucochila armifera *Say*. (Fig. 55.) This is a much larger species than the preceding one. The shell is cylindrical oblong, of a waxen-white color, having from six to seven smooth convex whorls. Apex rather obtuse; lip reflected, nearly surrounding the aperture. Within the aperture are four or five projecting teeth, the largest being bifid, and starting from the body whorl; in others projecting from the walls of the aperture, and deep seated. Shell slightly umbilicated. Length $\frac{3}{16}$ inch; diameter half the length; animal black. This species appears to be plentiful in many of the Middle and Western States, extending as far east as Vermont, where it has been found on the shores of Lake Champlain.

Fig. 55.

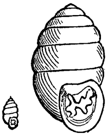
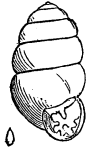


Fig. 56.



Leucochila pentodon *Say*. (Fig. 56.) This species is a third smaller than *L. contracta*, being only $\frac{1}{15}$ of an inch in length. It has about five whorls; is whitish or greenish-white; translucent, though often obscured by dirt that adheres to its surface. Aperture having a thickened ridge within, on which are several minute teeth, the longest one projecting from the body whorl. The number and size of these teeth vary greatly in this species, but the shell is quite characteristic when once determined. It is found in very wet places, under bits of wood by watery ditches. Found in nearly all the States this side of the Rocky Mountains; common in New England.

In the following species the lower tentacles are absent, and the head has lappets on each side, and when viewed beneath seems partially separated from the creeping disk, more like the fresh-water air-breathing snails. As they are best known as Vertigo, we describe them under that head. As the species are very minute, we have given not only magnified figures of the entire shell, but a still more magnified figure of the aperture, as the characters of the species lie mostly in the contour of this portion of the shell.

VERTIGO OVATA *Say* (Figs. 57, 58) has an ovate, dark, amber-colored, and highly polished shell. Within the aperture are seven or eight teeth; these vary greatly in different specimens.

Fig. 57.

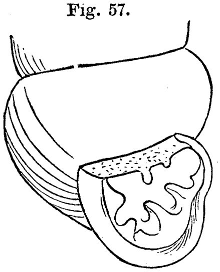
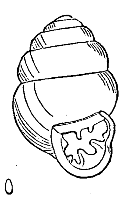


Fig. 58.



This is the largest of New England Vertigos, though measuring only $\frac{3}{40}$ of an inch in length, and $\frac{1}{25}$ of an inch in breadth. It is more globose than the species to follow, and has more teeth within the aperture. This species is almost aquatic in its habits, living under bits of wood and stones, in wet and soggy places. Inhabits all the Western, Middle, and Eastern States. Is common in New England.

Vertigo Gouldii *Binney.* (Figs. 59, 60.) This species is smaller than *V. ovata;* is not so broad compared to its length, and is not polished, but distinctly striated. The teeth within the aperture are five in number, that on the body whorl very large. Length of shell $\frac{1}{66}$ inch, breadth $\frac{1}{32}$ inch. It occurs in woods and groves under leaves. It appears to be common in New England, and has been found in some of the Middle and Western States.

Fig. 59.

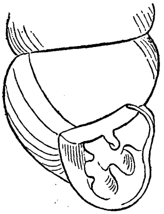
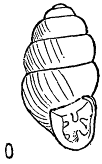


Fig. 60.



Vertigo ventricosa *Morse.* (Figs. 61, 62.) In outline the shell resembles that of *V. ovata*, and it has always been confounded with that species. The shell is much smaller, however; has one whorl less, and has only five teeth within the aperture. Length $\frac{7}{100}$ inch. It is not a common species, though I have received it from New York, New Hampshire, Massachusetts, and Maine.

Fig. 61.

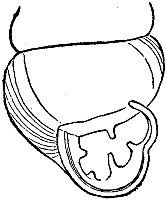
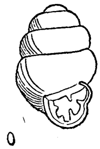


Fig. 62.



Vertigo Bollesiana *Morse.* (Figs. 63, 64.) This species has been heretofore confounded with *V. Gouldii.* It has a small shell, lighter colored, polished and translucent. The teeth are five in number, but less prominent. Length $\frac{6}{100}$ inch. Found in hard-wood growths, in company with the smaller snails. It is not a common species.

Fig. 63.

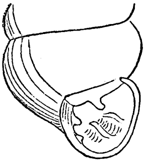
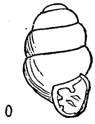


Fig. 64.



Vertigo milium *Gould.* (Figs. 65, 66.) Despite the infinitessimal character of the species described above, this species is much smaller than any of the others, being only $\frac{4}{100}$ inch in length, and weighing but $\frac{5}{1000}$ of a grain! and this tiny shell encloses a pulsating heart, a lung, stomach, liver, and all the organs we find in the larger snails. The shell has six teeth within the aperture, those on the lower portion of the aperture being long ridges running far within the shell. This species is found under decaying leaves in woods, and sometimes under stones in open pastures. It has a wide distribution in the United States, though it is rarely met with on account of its exceeding minuteness.

Fig. 65.

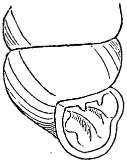
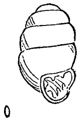


Fig. 66.



VERTIGO SIMPLEX *Gould*. (Figs. 67, 68.) The shell is quite long and cylindrical, having five whorls. The aperture is entirely devoid of teeth, and has a sharp lip. Length $\frac{1}{15}$ of an inch. Found in all the New England States, New York, and some of the Western States.

Fig. 67.

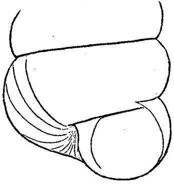
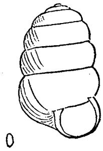


Fig. 68.

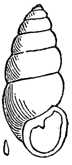


VERTIGO DECORA *Gould*. Mr. L. L. Thaxter has found this species at Ascutney, Vermont. We learned this fact too late to prepare a figure of it. We may briefly state that it is something like *V. Gouldii*, though twice the size of that species, and darker colored. It was first discovered in the region of Lake Superior, and one specimen has been identified from Great Slave Lake.

The following group, though air-breathing, are amphibious in their habits. The animal has only two tentacles, with no power to draw them within the head, as in those above described. The eyes, instead of being at the tips of these tentacles, are at the base.

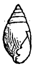
CARYCHIUM EXIGUUM *Say* (Fig. 69) has an elongated white shell, with five convex whorls, tapering gradually to the apex. Aperture obliquely oval, bordered by a roundish, thickened margin. On the outer margin of the aperture, there is a tooth-like projection, and on the inner margin there is another more prominent. Length of shell $\frac{1}{15}$ inch. Lives in very wet and boggy places in woods. Found in nearly all the States east of the Rocky Mountains.

Fig. 69.



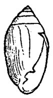
ALEXIA MYOSOTIS *Drapanaud*. (Fig. 70.) Shell ovate, conical, smooth, horn-color. Spire having six or seven whorls, making a short, elevated, pointed spire. Aperture long and narrow, having on the inner margin two or more thin white teeth. Length $\frac{3}{10}$ inch. Found in the crevices of old wharfs and sea-walls, below high-water mark. It is never found away from the salt water, and if it breathes air like the rest of the group, it must take in a supply at low tide.

Fig. 70.



MELAMPUS BIDENTATUS *Say*. (Fig. 71.) Shell ovate, conic, whorls five, the last one three-fourths the length of the shell. Apex short; aperture having two folds or teeth on its inner margin. Color brownish horn. In adult specimens the shell is whitened from erosion. Very young specimens are oftentimes ornamented by dark, revolving bands. Length not quite half an inch. Inhabits the salt-marshes of our coast, where they may be found by thousands just below high-water mark. It is found all along the coast to Florida, though extremely rare north of Massachusetts Bay.

Fig. 71.



With this species we close the description of the Land Snails of New England as continued articles. In a future number of the NATURALIST we hope to give an account of the Slugs or Snails without external shells.

To those who have not the earlier numbers of the NAT-

URALIST, we would say that the terms used in describing the different species are explained and illustrated in the April number, and that a general account of their habits and anatomy may be found in the March number.

REVIEWS.

THE QUARTERLY JOURNAL OF PSYCHOLOGICAL MEDICINE AND MEDICAL JURISPRUDENCE. Edited by *William A. Hammond, M. D.* Vol. I. Nos. 1, 2. July, October, 1867. Quarterly, 8vo. A. Sampson & Co., New York.

Our notice of this journal, which fills an important gap in medical literature, has been long delayed. It will also interest many of our readers, as it bears on those subjects in which all naturalists, especially physiologists, are most interested. The three leading articles are contributed by the Editor. The article On Instinct, its Nature and Seat, gives an excellent summary of the views of various writers on a subject on which much has been written without reaching satisfactory results.

The author's views may be summarized thus: Animals perform three sets of actions; 1st, *reflex*, such as eating, breathing, respiration. "The new-born child does not breathe because of a 'natural blind impulse' to do so, but because the placental connection with its mother, by which its blood was oxygenated, having been severed, and the stimulus of atmospheric air having been applied to its skin, an impression is conveyed to the nervous centres, it is reflected to the respiratory muscles, and breathing takes place." This is a reflex action of the nervous system. It is not instinctive or an act of the reason. 2d, *instinctive*, which are "the result of impressions received from within." "Instinct is that innate faculty which organic beings possess, by which they are enabled or impelled to perform acts without being prompted by the intellectual powers, and even in direct opposition thereto." Dr. Hammond, from whom we have quoted, further states that "instinctive acts are not the result of instruction or experience. This is one of the most prominent points wherein the actions in question differ from those which are the result of intelligence and reason." 3d, *rational*. These are, as the author states, of